PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Securing Wildlife Mitigation Sites - Oregon, Ladd Marsh Wma Additions

BPA project number: 20114
Contract renewal date (mm/yyyy): ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Oregon Department of Fish and Wildlife

Business acronym (if appropriate) ODFW

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses
11.3A, 11.3D

FWS/NMFS Biological Opinion Number(s) which this project addresses

Other planning document references
1. Oregon Trust Oregon Trust Agreement Planning (OTAP) Project
2. BPA Wildlife Mitigation Program Final EIS
3. BPA Watershed Management Program Final EIS
4. Assessing OTAP Project Using GAP Analysis
5. USFS Status of the interior Columbia Basin: summary of scientific finding
6. CTUIR Wildlife Mitigation Plan for the John Day and McNary Dams, Columbia River Basin
7. CTWSRO Integrated Resource Management Plan
8. ODFW District Wildlife Management Plans
9. Wy Kan Ush Me Wa Kush Wit, CRITFC
10. CBFWA Guidelines for Enhancement, Operations, and Maintenance for Wildlife Mitigation Projects

Short description
Enhance wetland habitats on lands adjacent to the Ladd Marsh Wildlife Management Area to mitigate for wildlife habitats impacted by the lower four Columbia River hydroprojects.

Target species
Mallard, western meadowlark, Canada goose, spotted sandpiper, yellow warbler, downy woodpecker, mink, and California quail

Section 2. Sorting and evaluation

Subbasin
Lower Snake Subregion, Grande Ronde Subbasin

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
☐ Anadromous fish ☐ Resident fish ☒ Wildlife	☐ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☐ Information dissemination ☒ Operation & maintenance ☐ New construction ☐ Research & monitoring ☒ Implementation & management ☒ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
9705900	Securing Wildlife Mitigation Sites - Oregon
20116	Securing Wildlife Mitigation Sites - Oregon, Horn Butte
	Securing Wildlife Mitigation Sites - Oregon, McKenzie River Islands
	Securing Wildlife Mitigation Sites - Oregon, E.E. Wilson WMA Additions
	Securing Wildlife Mitigation Sites - Oregon, Multnomah Channel
	Securing Wildlife Mitigation Sites - Oregon, Ruthton Point (Mitchell Point)
	Securing Wildlife Mitigation Sites - Oregon, Trout Creek Canyon
20115	Securing Wildlife Mitigation Sites - Oregon, Irrigon WMA Additions
20112	Securing Wildlife Mitigation Sites - Oregon, Wenaha WMA Additions
20113	Securing Wildlife Mitigation Sites - Oregon, South Fork Crooked River
	Juniper Canyon and Columbia Gorge Wildlife Mitigation Project

20140	Tualatin River National Wildlife Refuge Additions
8802200	Acquisition of Pine Creek Ranch
20090	Securing Wildlife Mitigation Sites - Oregon, Logan Valley
20134	Acquire Oxbow Ranch - Middle Fork John Day

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9705900	Securing Wildlife Mitigation Sites - Oregon	Umbrella project; explains intent for mitigation planning, coordination, and implementation by Oregon wildlife managers within Oregon. Identifies priority projects with specific budgets that will help meet mitigation objectives.
	ODFW Grande Ronde Subbasin Umbrella Proposal	Umbrella project; explains management intent for anadromous and resident fish and wildlife in the Grande Ronde Subbasin.
9565	Assessing Oregon Trust Agreement Using GAP Anaylsis	A mitigation planning tool used to analyze and rank potential mitigation projects within the basin.
9284	Oregon Trust Agreement Planning Project	A mitigation planning tool that includes methods for assembling a trust agreement and a list of potential mitigation projects.
9206800	Implementation of Willamette Basin Mitigation Program - Wildlife	A mitigation proprosal focusing on land acquisition/easement, enhancement, and management of lands in the Willamette Basin. Similar in function as Coalition's umbrella project.

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1993	Created a list of potential wildlife mitigation projects throughout Oregon	
1996	Developed partnerships with The Nature Conservancy (TNC) and Ducks Unlimited (DU) to facilitate project objectives	
1997	Compiled more comprehensive prioritized list of mitigation sites;	

	identified Ladd Marsh as priority area	
1997	TNC began landowner negotiations for land acquisitions	
1998	Title to 308-acre property secured by TNC	
1998	FY99 proposal for $8,000 to enhance 308-acre property was approved and recommended	
1998	DU prepared proposal for the Ladd Creek/Tule Lake Restoration Project	
1998	Title to 160-acre property secured by TNC	
1998	Enrollment of the 308-acre and 160-acre properties into the Federal Wetland Reserve Program	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Develop Management Plans for Acquired Lands	a	Assess existing habitat conditions and restoration needs and opportunities on 308-acre parcel and 160-acre parcel
		b	Develop Restoration Plan for both parcels
		c	Develop Operations and Maintenance Plan for both parcels
		d	Develop Monitoring and Evaluation Plan for both parcels
2	Restore Habitat Values - Implement Restoration Plans	a	Alter livestock grazing practices
		b	Alter agricultural practices
		c	Install/improve water control structures
		d	Plant native grasses and shrubs
		e	Secure public access
3	Maintain Habitat Values - Implement Operations and Maintenance Plans	a	Conduct habitat enhancement activities as necessary to maintain habitat values
		b	Maintain water control structure
		c	Maintain informational signs
		d	Maintain fences and gates
4	Measure Effectiveness of Restoration Plan - Implement	a	Evaluate changes in habitat conditions using HEP survey

	Monitoring and Evaluation Plans		methods, plant survey methods, and photo points
		b	Conduct biological monitoring to assess species response
5	Acquire Additional Lands Adjacent to the Ladd Marsh WMA	a	Acquire 375-acre property

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	12/1997	6/2000	Assessment of existing conditions; development of Restoration Plan, O&M Plan, and M&E Plan		15.00%
2	6/1999	6/2003	Restore wildlife habitats; Provide enhancement credit HUs		25.00%
3	6/1999	12/2004	Maintain protection and enhancement credit HUs		5.00%
4	6/1999	12/2004	Habitat/Biological monitoring		5.00%
5	6/1999	12/2000	Acquire property	x	50.00%
				Total	100.00%

Schedule constraints
Difficult landowner negotiation efforts and inadequate or untimely fund acquisition could delay project implementation. Severe weather conditions could delay field activities.

Completion date
Development of mgmt. plans - FY2001
Habitat restoration - FY2003
O&M and M&E - ongoing, the NPPC's FWP requires BPA to provide adequate O&M funding to sustain the project as long as the hydrosystem operates (NPPC 1994,Measure 11.2C.1)
Acquisition - FY2000

Section 5. Budget

FY99 project budget (BPA obligated): $1,000,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	0.25 FTE	%3	11,598
Fringe benefits	@38%	%1	4,407
Supplies, materials, non-expendable property	water control structure, planting supplies, weed control, and sign materials	%16	58,620
Operations & maintenance	incorporated into personnel and subcontractor line items	%10	37,000
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	acquisition of 375-acre property	%60	216,000
NEPA costs	for 375-acre property	%3	10,000
Construction-related support		%0	
PIT tags	# of tags:	%0	
Travel		%1	3,000
Indirect costs	@35.5%	%0	
Subcontractor	Union Co. Weed Control Board	%1	3,000
Other	reimbursement to TNC for project acquisition costs	%5	17,012
TOTAL BPA FY2000 BUDGET REQUEST			$360,637

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
The Nature Conservancy	Facilitated acquisition of 308-acre and 160-acre properties; will facilitate acquisition of additional property (note: reimbursement of this cost is being requested)	%2	17,012
NRCS Wetlands Reserve Program	Paid for 75% of the cost of the 308-acre property and 100% of the cost of the 160-acre property; will likely contribute to cost of restoration activities and additional acquired properties	%34	373,000
Ducks Unlimited	Prepared restoration plan for Ladd Marsh area	%2	17,000

NRCS Wetlands Reserve Program	Will reimburse between 60% to 80% of the purchase price of the 375-acre parcel (note: 60% reimbursement amount is assumed in the cost-share)	%30	324,000
		Total project cost (including BPA portion)	$1,091,649

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$283,000	$50,000	$50,000	$30,000

Section 6. References

Watershed?	Reference
☐	Beak Consultants, Inc. 1993. Audit of wildlife loss assessments for federal dams on the Columbia River and its tributaries. Prepared for the NPPC, Portland, OR.
☐	BPA. 1993. OR Trust Agreement Planning Project: Potential mitigation to the impacts on OR wildlife resources associated with relevant mainstem Col. R. and Willamette R. hydroelectric projects. BPA, U.S. Dept. of Energy, Portland, OR. DOE/BP-299-1. 53pp.
☐	BPA. 1997a. Watershed management program final environmental impact statement. DOE/EIS - 0265. BPA, Portland, OR.
☐	BPA. 1997b. Wildlife mitigtaion program final environmental impact statement. DOE/EIS - 0246. BPA, Portland, OR.
☐	BPA. 1997c. Wildlife mitigation program record of decision. DOE/EIS - 0246. BPA, Portland, OR.
☐	Northwest Power Act. 1980. Pacific Northwest electric power planning and conservation act, with index. BPA, U.S. Dept. of Energy. 40 pp.
☐	Northwest Power Planning Council. 1994. Columbia Basin Fish and Wildlife Program. NPPC 94-55. NPPC, Portland, OR. January 1994.
☐	ODFW 1997. Assessing OTAP Project Using GAP Analysis. In fulfillment of Project Number 95-65, Contract Number DE-BI179-92BP90299. Prepared for: BPA; Project Cooperators: USFWS, CTUIR, CTWSRO, BPT, Oregon Natural Heritage Program, Portland, OR.
☐	Prose. B., Farmer A., and Olson R. 1986. Cost-effectiveness of easement and fee title acquisition for mitigating wildlife habitat losses. USDI, USFWS, Nat. Ecol. Center, Fort Collins, CO. 61 pp.
☐	Rasmussen, L. and P. Wright. 1990a. Wildlife impact assessment, Bonneville Project, Oregon and Washington. Prepared by USFWS for U.S. Dept. of Energy, BPA, Portland, OR. 37pp.
☐	Rasmussen, L. and P. Wright. 1990b. Wildlife impact assessment, McNary Project, Oregon and Washington. Prepared by USFWS for U.S. Dept. of

	Energy, BPA, Portland, OR. 46pp.
☐	Rasmussen, L. and P. Wright. 1990c. Wildlife impact assessment, John Day Project, Oregon and Washington. Prepared by USFWS for U.S. Dept. of Energy, BPA, Portland, OR. 47pp.
☐	Rasmussen, L. and P. Wright. 1990d. Wildlife impact assessment, The Dalles Project, Oregon and Washington. Prepared by USFWS for U.S. Dept. of Energy, BPA, Portland, OR. 34pp.

PART II - NARRATIVE

Section 7. Abstract

This project, one of many proposed by the Oregon Wildlife Coalition, is considered an ongoing acquisition and enhancement project under the *Securing Wildlife Mitigation Sites - Oregon* project (Umbrella Project 9705900) as it was recommended for FY1999 funding. This proposal explains the management objectives for wildlife and wildlife habitat as they relate to the proposed project and describes the link between this project and others proposed under the Coalition's umbrella project.

In this FY2000 proposal, the Oregon Wildlife Coalition is proposing to: 1) continue the enhancement of a 308-acre parcel with wetland and riparian habitats, 2) initiate the enhancement of vernal lake and associated upland habitats on a 160-acre parcel, and 3) acquire a 375-acre property. All three parcels are adjacent to ODFW's Ladd Marsh Wildlife Management Area (WMA) in the Grande Ronde River valley. Specific tasks to be accomplished relative to the 308-acre and 160-acre parcels include assessment of habitat conditions; development of management plans; and implementation of restoration, operation and maintenance, and monitoring and evaluation activities. The Nature Conservancy (TNC) currently has title to the 308-acre and 160-acre parcels; TNC will be reimbursed through the Federal Wetlands Reserve Program for much of the acquisition costs for these two parcels. Title to both properties will then be transferred to ODFW. Title to the 375-acre parcel will acquired by TNC or Ochoco Timber Co. The property will then be enrolled into the Federal Wetlands Reserve Program and most of the purchase costs will be reimbursed. A proposal to enhance the 308-acre parcel was submitted in 1998 for FY99 BPA funds. The Council approved the proposal in September 1998.

The overall goal of this project is to acquire, enhance, and maintain lands adjacent to the Ladd Marsh WMA for the benefit of wildlife. Habitat protection and enhancement will be achieved by developing and implementing restoration activities on the 308-acre and 160-ace parcels and by acquiring the 375-acre parcel. Enhancement of the 308-acre parcel will include restoration of approximately 4,000 feet of the Middle Fork Ladd Creek and 2,000 feet of Barney Creek. Diversion ditches will be removed to allow the creeks to flow into their natural channels. Water control structures will be installed to regulate water flows, and wetland and upland habitats will be planted to native vegetation. Restoration of the 160-acre property will include altering land use practices

which are currently degrading the site and planting of the uplands to native species. Herbicides will be used to control undesirable plant species until native species become established. A 375-acre parcel adjacent to the Ladd Marsh WMA will be acquired. Funds to conduct habitat assessment and management planning will be proposed in out-years. All parcels will be enhanced and managed in cooperation with the Ladd Marsh WMA. TNC will assist in the development of enhancement plans to ensure plant species of concern are specifically addressed.

Key habitats and cover types provided by the area include wetland and riverine/riparian habitats. This project will help achieve the wildlife mitigation goal of fully mitigating for wildlife losses caused by the construction and operation of the hydropower system in the Columbia River Basin as outlined in the NPPC's Wildlife Program (NPPC 1994, Section 11.1). Wetland and riverine/riparian habitat types are high priority habitat types in the Upper Mid-Columbia Subregion (NPPC 1994, Table 11-2). This project will benefit a variety of wildlife species, including many of the target species associated with the lower four Columbia River hydroelectric projects (i.e., mallard, Canada goose, mink, western meadowlark, spotted sandpiper, yellow warbler, downy woodpecker, and California quail). About 500 - 1,000 protection and enhancement Habitat Units (HUs) are expected from the mitigation site by the year 2004.

Results of project restoration and enhancement activities will be monitored and evaluated using Habitat Evaluation Procedures protocols for the above mentioned mitigation target species, as well as for plant communities determined at a later time to be indicative of habitat quality. Photo monitoring, as well as biological monitoring of certain wildlife species and plant communities, will occur to measure changes in habitat quality and corresponding species responses.

Section 8. Project description

a. Technical and/or scientific background

The development of the hydrosystem inundated wildlife habitats and affected many species of wildlife (NPPC 1994). The Northwest Power Act of 1980 established and charged the NPPC with the task of developing a comprehensive fish and wildlife program to protect, mitigate, and enhance fish and wildlife habitat in the Columbia Basin (Northwest Power Act, Section 4(H)(1)(A); NPPC 1994, Section 2). The Northwest Power Act also authorized and obligated BPA to fund implementation of mitigation projects consistent with the NPPC's FWP mitigation goals and objectives.

Hydrosystem impacts were assessed in the mid-1980s. These impacts have been independently audited and verified (Beak 1993) and were amended into the NPPC's FWP as unannualized contraction losses (NPPC 1994, Section 11.3A.1). Wildlife impact assessments (Rassmussen and Wright 1990a, 1990b, 1990c, 1990d) estimated the loss of HUs as a result of the construction of each of the lower four Columbia River hydroelectric projects. Riparian/riverine, shrub-steppe, wetland, island, and forest habitats were lost as a result of inundation.

In 1992, the Oregon Trust Agreement Planning (OTAP) Project was initiated by the Oregon Wildlife Coalition (OWC) to create a list of potential wildlife mitigation opportunities by priority and to attempt to determine the costs of mitigating for wildlife losses in Oregon. Using Council and OWC developed criteria, this project resulted in a prioritized list of 287 potential mitigation sites and cost estimates for general habitats within the mitigation area (BPA 1993). For more information on the OTAP Project see the Oregon Wildlife Coalition's *Securing Wildlife Mitigation Sites – Oregon* umbrella project proposal (Project 9705900). The OTAP was later refined in 1995 using GAP Analysis techniques. The primary goal of the project was to prioritize and depict the contribution of each proposed mitigation site to target species and habitats as well as overall biodiversity in the state and/or eco-region within which it is found. From the results of this project (ODFW 1997), Oregon wildlife managers cooperatively identified and ranked a short list of higher priority sites, one of which was the Ladd Marsh area. For more information on the OWC's GAP Analysis project see the *Securing Wildlife Mitigation Sites – Oregon* umbrella project proposal.

The Ladd Marsh area is a high priority site because it is an opportunity to restore and protect lost wetlands in an area that was historically part of a large wetland complex. The Ladd Marsh project area provides habitat for numerous species birds, mammals, and amphibians. Ladd Creek, a tributary of Catherine Creek, is home to resident rainbow trout and steelhead. Catherine Creek supports Chinook salmon as well as rainbow trout and steelhead.

The 308-acre property is currently degraded by past agricultural practices, grazing practices, and water diversion efforts. Ladd Creek and Barney Creek, which flow through the property, have been channelized next to county roads to accommodate agricultural and road construction. Both sections will be rerouted into ODFW property (Ladd Marsh WMA). If possible, historic channels will be identified and restored. The project will increase channel meander, increase the water table, provide an improved riparian zone, and eliminate contaminants from the roads. Improvement will also be made to culverts and irrigation diversions to improve fish passage. The area will be planted to native vegetation.

The 160-acre property is comprised of 120 acres of lake and associated wetland, and 40 acres of upland. The lake is shallow and often dries up by late summer or early fall. Fall moisture and lower evaporation rates enable the lake to fill again. It is an extremely important migration area for waterfowl and shorebirds. The area also provides nesting and rearing habitat for wetland birds. In recent years, prior landowners have made attempts to drain and farm the area. During drier years, the lake was pumped to allow farming and haying. Ridges are still evident where landowners deep plowed in attempt to increase drainage to farmed fields. The uplands are presently planted to small grains and mint. Farming occurs within a few feet of the wetland. Restoration will include preparation and planting of the uplands to native species. Herbicides will be used to control undesirable species until native species become established.

The 375-acre proposed acquisition site has been offered for sale to ODFW. The property will be purchased either by TNC or Ochoco Timber Company. They will enroll the property into the Federal Wetland Reserve Program. The property will be enrolled for restoration funds and a permanent easement. Under the easement program, the landowner (TNC or Ochoco Timber Co.) will be reimbursed between 60% and 80% of the original purchase price. Historically, this property was part of the Tule Lake wetland complex. Tule Lake and the associated wetlands covered over 10,000 acres. Ditching and diking began in the late 1800s. All but small remnants of the original wetlands have been drained. Presently, the parcel is in pasture, alfalfa, grass hay, and small grain. A home/building site covers three acres. There are a few scattered seasonal wetlands. The majority of the area is subject to periodic flooding. Restoration of the site will include restoring shallow wetlands by constructing low dikes and removing cattle and most farming activities. Both wetlands and uplands will be planted to native species. Substantial water rights are associated with this parcel. Approximately 6 cfs of Catherine Creek and 1.25 cfs from Ladd Creek water could be used for habitat enhancement and instream water rights. The parcel will be managed by ODFW as part of the Ladd Marsh WMA.

Few intact wetlands remain or are protected in this area outside the Ladd Marsh WMA. This is a unique opportunity to enhance and acquire lands adjacent to an existing WMA. If this project was not funded, existing plans to restore wetland and riparian habitats on the 308-acre property may not be completed as scheduled and decreases in the overall quality and quantity of fish and wildlife habitat on all three properties would occur. Transfer of the titles for the 308-acre and 160-acre properties would still occur, but ODFW WMA staff would not likely have the time or funds to implement restoration activities as planned. Fish and wildlife habitat values would remain the same or decline until impacts from past agricultural practices, grazing practices, and water diversion are addressed. Water quality and quantity, riparian habitat conditions, and in-stream water temperatures would continue to limit fish and wildlife diversity and productivity until significant effort was made to restore the natural hydrology and in-stream flow of Ladd Creek. Irreversible effects to steelhead populations in Ladd Creek could occur. This would have cumulative effects on the overall vitality of steelhead in the Grande Ronde subbasin. Wildlife populations may gradually decline over time if habitat conditions are not improved. Future options near the WMA may be limited and the effectiveness to manage wildlife and wildlife habitats on the WMA may be affected. Land prices will likely continue to increase and land may become unavailable due to purchase by another entity or through development.

Implementation of the Ladd March WMA Additions project will help the Council meet their wildlife mitigation objectives and provide partial mitigation for losses associated with the construction of one or more of the lower four Columbia River hydroelectric facilities. The Ladd Marsh project will protect and enhance wetland and riverine/riparian habitats, both of which are considered high priority habitat types (NPPC 1994, Table 11-2). The project will provide protection and enhancement HUs for mallard, Canada goose, great blue heron, lesser scaup, mink, western meadowlark, spotted sandpiper, California quail, and yellow warbler – most of the John Day and McNary mitigation target species.

b. Rationale and significance to Regional Programs

The Ladd Marsh project is consistent with the NPPC's Wildlife Program goal to achieve and sustain levels of habitat and species productivity as a means for fully mitigating wildlife losses caused by construction and operation of the federal and non-federal hydroelectric system (NPPC 1994, Section 11.1). The project is also consistent with the specific principles outlined in Section 11.2D.1 of the FWP:

Least costly way to achieve the biological objective
Permanent protection and enhancement of habitats provided by properties adjacent to the Ladd Marsh WMA Additions project is achieved through land acquisition. According to a study that compared various mitigation methods, fee title acquisition and subsequent management is generally more cost effective than easement (Prose et al. 1986). The Oregon Trust Agreement Planning (OTAP) Project (BPA 1993) concurred with this finding.

Have measurable objectives
Wildlife and wildlife habitat will benefit from the Ladd Marsh project. Benefits will quantified as Habitat Units (HUs), the unit of measure used in Habitat Evaluation Procedures. The project is expected to generate 500 to 1,000 protection and enhancement HUs by the year 2004. Species response will also be measured using various biological monitoring protocols.

Provide riparian or other habitat that can benefit both fish and wildlife
This project will benefit both fish and wildlife. Ladd Creek, a tributary of Catherine Creek (a tributary of the Grande Ronde River) flows through the site. Steelhead occur in Ladd Creek. Restoration of wetlands and riparian habitats will improve water quality and quantity, riparian vegetation conditions, and in-stream water temperatures. The lower portions of Ladd Creek could be used by rearing Chinook salmon if in-stream water temperatures were reduced. Substantial water rights are associated with the 375-acre parcel proposed for acquisition. Acquisition will give right over about 6 cfs from Catherine Creek and 1.25 cfs from Ladd Creek water that could be used for habitat enhancement and in-stream water. Transferring water rights to instream water flows will dramatically improve winter and summer habitat for steelhead and Chinook salmon in Catherine Creek. Summer water temperatures have been identified as one limiting factor for steelhead and Chinook salmon in Catherine Creek. Improvement will be made to culverts and irrigation diversions that will improve fish passage.

Protect high quality native habitat and/or species of concern
The Ladd Marsh project will restore wetlands and riparian habitats that have been degraded by past land management practices including grazing, farming, and wetland draining. Improved habitat conditions will be protected from future threats. Few intact wetland areas remain in the Ladd Marsh area. Habitat conditions on the 160-acre property with vernal lake component are relatively intact. Despite overall degraded wetland habitat conditions, the project areas provide important habitat for many Federal

and State listed species including bald eagle (Federally Threatened), greater sandhill crane (State Sensitive, Vulnerable), Swainson's hawk (State Sensitive, Vulnerable), bobolink (State Sensitive, Vulnerable), painted turtle (State Sensitive, Critical), and steelhead and Chinook salmon (Federally Threatened).

Mitigate losses in-place in-kind
The Ladd Marsh project will mitigate for target species losses off-site (it is about 80 miles from the McNary hydroelectric facility and 120 miles from the John Day hydroelectric facility) and in-kind (restoration of wetland and riparian habitats).

Help protect or enhance natural ecosystems and species diversity over the long-term
Protection and enhancement of wetland and riparian habitats will occur at the Ladd Marsh project site in-perpetuity through enhancement of publicly owned lands and acquisition of private land. The properties of interest have been degraded by past land use practices; proposed enhancement activities will partially restore the historic wetland complex that once existed in the Ladd Marsh area. Lands will be protected from future habitat degradation threats. Species diversity will be greatly enhanced and protected over the long-term. Management of these lands as part of Ladd Marsh WMA will enhance the effectiveness of restoration activities and provide a larger, more natural wetland area. Species diversity will benefit from this. Protection and restoration of wetland and riparian habitat values will help ensure the future viability of the many species that use these habitat types. In addition to the mitigation target species and the species of concern listed above, the Ladd Marsh project will benefit other wildlife such as waterfowl, raptors, reptiles, amphibians, and mammals.

Complement the activities of the region's state and federal wildlife agencies and Indian tribes
Proposed mitigation activities will complement wildlife management efforts on the existing Ladd Marsh WMA. Additional land acquired near or adjacent to the WMA will provide wetland habitat corridors important to many fish and wildlife species in the Ladd Creek area and improve management of the entire area. There are few protected wetland areas in this part of the state. The project is consistent with the Ladd Marsh WMA's management goals and objectives. Acquisition of the proposed 375-acre property will especially enhance ODFW's management of the adjacent Waterboard unit because present flooding problems would no longer be an issue.

Encourage formation of partnerships to reduce project costs/eliminate duplicative activities
The Nature Conservancy (TNC) has played an important role in this project. TNC 308-acres and 160-acre parcels are currently owned by TNC who has enrolled them in the Federal Wetland Reserve Program as permanent easements. TNC will be reimbursed for 75% of the 308-acre parcel's fair market value and for 100% of the 160-acre parcel's fair market value. Other acquisitions costs totaling about $12,012 have been assumed by TNC to date. ODFW has coordinated with TNC throughout the entire acquisition process. Ducks Unlimited (DU) prepared a restoration proposal for the Ladd Marsh area in cooperation with the Governor's Watershed Enhancement Board, ODFW, National

Resource Conservation Service (NRCS), TNC, and the U.S. Fish and Wildlife Service (USFWS). Acquisition of the 375-acre parcel will be facilitated by TNC or Ochoco Timber Company. Staff and equipment affiliated with the Ladd Marsh WMA and District office will be used to reduce project costs. Three-quarters of the costs for a 1.0 FTE will be derived from ODFW programs, thus personnel costs will be shared.

Do not impose on Bonneville the funding responsibilities of others
Under Section 4h of the Northwest Power Act, BPA is responsible for funding mitigation for the loss of wildlife habitat caused by development of the Columbia Basin hydrosystem. BPA accomplishes this mitigation by funding projects consistent with the Council's FWP. Certain enhancement, operation, and maintenance activities are reasonable for BPA to fund while other activities may be outside BPA's obligation. *CBFWA's Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects* (CBFWA 1998) explains what activities are within BPA's funding responsibility. The acquisition/easement, enhancement, operations and maintenance, and monitoring and evaluation components of the Ladd Marsh project are consistent with CBFWA's guidelines and do not impose on BPA the funding responsibilities of others.

Address concerns over additions to public land ownership and impacts on local communities/consistency with local governments' comprehensive plans
There is much local and regional support for the Ladd Marsh project. In-lieu taxes on acquired land will be paid by ODFW, the managing entity, to offset the lost county tax revenue. Proposed mitigation activities are consistent with existing ODFW Ladd Marsh management plans.

Use publicly owned land for mitigation or management agreements on private lands in preference to acquisition of private lands providing permanent protection or enhancement of wildlife habitat in the most cost-effective manner
The 308-acre and 160-acre properties will soon be owned by ODFW. They will provide permanent protection and enhancement on publicly owned lands and will be managed for wildlife in conjunction with existing Ladd Marsh lands in a cost-effective manner. Acquisition of the 375-acre private parcel will also provide benefits to wildlife in-perpetuity.

Other
The Ladd Marsh project is consistent with all known local, state, federal, and tribal laws. The project is covered under the BPA Wildlife and Watershed Programmatic EIS documents (BPA 1997b, BPA 1997c, BPA 1997a). The project is consistent with several other areas of the Council's FWP. Specifically, it is consistent with Section 7.6 of the FWP which calls for watershed based habitat restoration focusing on protecting of wild and natural populations.

c. Relationships to other projects

Securing Wildlife Mitigation Sites – Oregon
This umbrella project proposal describes wildlife mitigation planning and implementation strategies for Oregon. It includes a list of specific mitigation projects that have been identified by the Oregon Wildlife Coalition as high priority sites. While all the individual projects are stand-alone projects, they collectively relate to one another in that their aim is to achieve full mitigation for documented wildlife losses in Oregon. The umbrella proposal and the specific sites within the umbrella, including the Ladd Marsh WMA Additions project, are sponsored by the Oregon Wildlife Coalition. Implementation of the umbrella will give the Coalition the flexibility to fund specific projects as they become available.

ODFW Grande Ronde Subbasin Umbrella
This umbrella explains the management intent for anadromous fish, resident fish, and wildlife in the Grande Ronde Subbasin. Management objectives for key species and strategies and actions that will be implemented to meet those objectives are described. This umbrella provides the link between fish and wildlife mitigation goals and objectives at the subbasin level. The Ladd Marsh WMA Additions project falls within the geographic area of the Grande Ronde subbasin umbrella proposal.

Assessing Oregon Trust Agreement Planning Project Using GAP Analysis
The purpose of this project was to develop strategies for implementing wildlife mitigation in Oregon. The results of the Oregon Trust Agreement Planning Project were re-evaluated using refined criteria. Potential mitigation sites were prioritized and the contribution of each site to target species and priority habitats was assessed. The Ladd Marsh area was identified as a high priority mitigation site. The results of the GAP Analysis project will continue to be used to identify, plan, and eventually implement priority projects throughout Oregon for the purpose of wildlife mitigation.

Oregon Trust Agreement Planning Project
Oregon's wildlife managers and tribes initiated this project as the means of achieving a trust agreement between Oregon and BPA for wildlife mitigation. A database containing information about potential mitigation sites and associated mitigation costs was compiled. This project lays the foundation for the GAP Analysis project.

Implementation of Willamette Basin Mitigation Program – Wildlife
The goal of this project is to cooperatively develop and implement measures to mitigate for wildlife habitat losses associated with the hydrosystem in the Willamette River basin. Specific mitigation activities (e.g., mitigation planning, land acquisition) have been implemented within this project for several years. The project functions similarly to the *Securing Wildlife Mitigation Sites – Oregon* umbrella in that the planning, proposal, and implementation of specific mitigation activities is done in a coordinated manner under the project title.

d. Project history (for ongoing projects)

The Ladd Marsh WMA Additions project is an on-going project since FY99. Many important events led up to the Oregon Wildlife Coalition's proposal of the Ladd Marsh project.

During the mid 1980s, at the Council's direction, BPA funded studies to assess the wildlife losses attributable to the construction of and inundation by each major hydroelectric facility. The Council reviewed these assessments and amended its FWP to specify the number of Habitat Units that would constitute adequate mitigation for wildlife losses at each dam. BPA was authorized to proceed with mitigation projects.

Over the next ten years, the project proposal and implementation process evolved. One important component of this process was the joining of Oregon's wildlife manager's (i.e., the Oregon Wildlife Coalition). The Oregon Wildlife Coalition (the Coalition) formed with the intent of planning and implementing wildlife mitigation for the State of Oregon in a coordinated manner. For more details on the specific events that have occurred to date, refer to the Oregon Wildlife Coalition's *Securing Wildlife Mitigation Sites - Oregon* umbrella proposal (Umbrella Project 9705900).

One of the Coalition's first efforts to plan and implement wildlife mitigation in a coordinated manner was the initiation of the Oregon Trust Agreement Planning (OTAP) Project (BPA 1993). This was Oregon's pre-mitigation planning effort to assess and prioritize mitigation needs and opportunities in the state. The Coalition then began to develop strategies to implement wildlife mitigation in Oregon. This involved initiating a project to reassess and build upon the findings of the OTAP Project. This project, *Assessing OTAP Process Using GAP Analysis* (ODFW 1997) provided information on potential mitigation and estimated their contribution to the mitigation of target species and priority habitats.

Both the Oregon Trust Agreement Planning Project and the Assessing OTAP Process Using GAP Analysis project identified the Ladd Marsh WMA area as a locale with priority wildlife mitigation needs and opportunities. For more information on these two Oregon wildlife mitigation planning efforts, refer to the Oregon Wildlife Coalition's *Securing Wildlife Mitigation Sites – Oregon* umbrella proposal.

Recognizing the benefits of addressing Oregon's mitigation needs and opportunities in a coordinated manner, the Oregon Wildlife Coalition developed and submitted a coordination and planning budget proposal in 1996 for FY97 BPA funds. This project was initiated in the fall of 1997. For the FY98 project proposal process, the Coalition proposed to identify a small group of potential mitigation projects throughout the state. This proposal had a small planning and coordination budget component. In 1997, the Oregon Wildlife Coalition further investigated potential mitigation sites and developed a short-list of priority sites. For FY99, the Coalition submitted a more detailed *Securing Wildlife Mitigation Sites - Oregon* umbrella proposal that listed individual projects that would meet wildlife mitigation goals and objectives. The Ladd Marsh WMA Additions project was one of these individual projects requesting FY99 BPA funds.

In 1997, two parcels of private land were identified in the Ladd Marsh area as potential mitigation sites. A 308-acre property was acquired in January 1998 by The Nature Conservancy (TNC) and enrolled into the National Resource Conservation Service's Federal Wetlands Reserve Program (WRP) who committed to reimburse TNC 75% of the land purchase price. A portion of BPA's FY98 funds was then allocated to reimburse TNC the remaining 25% of the purchase cost. The Coalition's proposal for FY99 funds to enhance the 308-acre parcel was submitted in 1998. A budget of $8,000 was requested. This enhancement project and budget was approved by the Council in September 1998. Efforts to enhance the 308-acre parcel and the acquisition of other properties adjacent to the Ladd Marsh WMA occurred in 1998. A 160-acre property was recently acquired by TNC and other properties adjacent to the WMA are being pursued, including the 375-acre property proposed for acquisition in this proposal.

TNC is already a major partner in this project as they facilitated the acquisition of the two parcels. Reimbursement funds for the 160-acre parcel have been allocated by the WRP. The WRP has committed to reimbursing 60 to 80% of the land purchase price of the proposed 375-acre parcel. Ducks Unlimited recently prepared a restoration plan for the Ladd Marsh area. Opportunities exist for future cooperation with TNC and the WRP.

e. Proposal objectives

Objective 1: Assess Habitat Conditions/Develop Management Plans

Tasks - Assess existing habitat conditions on the 308-acre and 160-acre properties; Identify restoration needs and opportunities; Develop Restoration Plan, Operation and Maintenance Plan, and Monitoring and Evaluation Plan

Objective 2: Restore Habitat Values - Implement Restoration Plan

Tasks - Alter livestock grazing practices; Alter agricultural practices; Install water control structures; Plant native grasses and shrubs; Control public access

Objective 3: Maintain Habitat Values - Implement Operations and Maintenance Plan

Tasks - Maintain restored habitat conditions; Maintain water control structure; Maintain informational signs; Maintain fences and gates

Objectives 4: Measure Effectiveness of Restoration Plan - Implement Monitoring and Evaluation Plan

Tasks - Evaluate overall habitat conditions using HEP survey methods, plant survey methods, and photo points; Conduct biological monitoring to assess species response to enhancement

Objectives 5: Acquire Additional Lands adjacent to the WMA

Tasks – Acquire 375-acre property.

f. Methods

Objective 1: Assess Habitat Conditions/Develop Management Plans

Task a - Assess existing habitat conditions on the 308-acre and 160-acre properties; identify restoration needs and opportunities

Methods:

- Review existing assessments (e.g., ODFW and Ducks Unlimited) to determine data gaps.
- Conduct Habitat Evaluation Procedures to estimate existing wildlife values and to estimate future changes in wildlife values and benefits resulting from enhancement actions.
- Based on HEP and other survey results, identify restoration needs and opportunities.
- Coordinate with other Ladd Marsh WMA activities and plans.

Task b - Develop Restoration Plan

Methods:

- Develop mitigation goals and objectives that address the findings of Objective 1, Task a.
- Develop management strategies to achieve mitigation goals and objectives at the Ladd Marsh site (e.g., land use practices, hydrology, native vegetation, and public access).
- Refine timelines and budgets for Restoration Plan strategy implementation
- Coordinate with other Ladd Marsh WMA plans.

Task c - Develop Operations and Maintenance Plan

Methods:

- Identify management activities needed to maintain enhance habitat values through time.
- Develop O&M protocol (timeline and budget).

Task d - Develop Monitoring and Evaluation Plan

Methods:

- Identify needs and opportunities for monitoring and evaluation.
- Identify variables to be monitored and evaluated.
- Review available M&E methodologies (e.g., HEP, species surveys, plant community surveys) and select techniques that will best meet objectives. Select photo point sites.
- Select and define success criteria.
- Develop M&E protocol (timeline and budget).

Objective 2: Restore Habitat Values – Implement Restoration Plan

Task a - Alter livestock grazing practices

Methods:

- Implement strategy for altering livestock grazing practices. Strategy will be based on the assessment of existing habitat conditions, restoration needs and opportunities, estimated changes in wildlife habitat values from the implementation of enhancement activities, and mitigation goals and objectives.
- Coordinate livestock strategy with other Ladd Marsh WMA practices and with adjacent landowners.
- Construct fence as necessary to facilitate grazing regime.

Task b – Alter agricultural practices

Methods:

- Implement strategy for altering agricultural practices. Strategy will be based on the assessment of existing habitat conditions, restoration needs and opportunities, estimated changes in wildlife habitat values from the implementation of enhancement activities, and mitigation goals and objectives.
- Coordinate agricultural strategy with other Ladd Marsh WMA practices, Federal Wetland Reserve requirements, and adjacent landowners.

Task c – Install/improve water control structures

Methods:

- Implement strategy for water control to and from sites. Strategy will be based on the assessment of existing habitat conditions, restoration needs and opportunities, estimated changes in wildlife habitat values from the implementation of enhancement activities, and mitigation goals and objectives.
- Restore Ladd Creek and Barney Creek to historic channels.
- Improve culverts and irrigation diversions to improve fish passage.
- Coordinate with other Ladd Marsh WMA practices and adjacent landowners.

Task d - Plant native grasses and shrubs

Methods:

- Implement native vegetation planting strategy for project site. Strategy will be based on the assessment of existing habitat conditions, restoration needs and opportunities, estimated changes in wildlife habitat values from the implementation of enhancement activities, and mitigation goals and objectives.
- Obtain planting stock. This will likely involve collecting planting stock and/or seeds from the site or a similar site, and propagation of stock and seeds.
- Obtain necessary equipment to accomplish seeding and planting. This will involve investigating options for borrowing/renting equipment.

Grasses are seeded with a harrow or broadcast seeded. Shrubs are planted as cuttings or bare-root stock.

- Seed and plant native species in areas identified in planting strategy.

Task e - Secure public access

Methods:

- Implement public access strategy. Strategy will be based on public access issues on and adjacent to the project site that were identified.
- Coordinate with adjacent landowners to ensure access to site is secured. This may involve the development of an access agreement between ODFW and the adjacent landowners.

Objective 3: Maintain Habitat Values - Implement Operations and Maintenance Plan

Task a – Conduct habitat enhancement activities as necessary

Methods:

- Implement management activities needed to maintain habitat values through time. Needed activities will be based on the assessment of existing habitat conditions, restoration needs and opportunities, estimated changes in wildlife habitat values from the implementation of enhancement activities, and mitigation goals and objectives. Activities necessary to maintain habitat values may include noxious weed control, prescribed burning, use of livestock grazing and farming as management tools, and re-seeding/re-planting of native vegetation.

Task b - Maintain water control structures

Methods:

- Regulate water at control structures. This may involve flood-irrigating portions of the project site to supplement naturally occurring wetlands.
- Maintain working condition of structures, canals, dikes
- Maintain culvert function.

Task c - Maintain informational signs

Methods:

- Maintain informational signs through repair, painting, and replacement. This will involve updating the information as necessary through the life of the project.

Task d – Maintain fences and gates

Methods:

- Repair fences and gates to protect project site from livestock trespass and to regulate visitor access. Maintenance will likely include repairing support structures, splicing wires, tightening wires, and

replacing stays. About one mile of fence will likely need maintenance each year.

- Coordinate with adjacent landowners to control access. This will involve discussions of public access needs and issues between ODFW and adjacent landowners, and the development of a public access agreement that addresses the various access issues.
- Report any violations to County law enforcement.

Objectives 4: Measure Effectiveness of Restoration Plan - Implement Monitoring and Evaluation Plan

Task a - Evaluate changes in habitat conditions

Methods:

- Take regular photographs at photo points to visually document changes in habitat conditions through time.
- Conduct Habitat Evaluation Procedures to gather data on wildlife habitat values. Target species used in the existing conditions assessment will be used.
- Compare before and after Restoration Plan implementation HEP data. Success criteria will be applied to help assess the effectiveness of the enhancement activities.
- Calculate Habitat Units gained.
- Identify shortcomings if any and re-evaluate the Restoration Plan (i.e., apply adaptive management principles). Specific strategies to achieve mitigation goals and objectives may be adjusted during this process.

Task b - Conduct biological monitoring to assess species response to enhancement

Methods:

- Implement selected biological monitoring techniques to complement standard HEP habitat monitoring. Techniques will likely include assessment of plant communities (a modified HEP technique) and the monitoring individual species responses (e.g., neotropical bird surveys, aerial deer counts).
- Analyze data to assess species response to enhancement activities.
- Identify inadequate species responses and possible causes for such occurrences.
- Re-evaluate the Restoration Plan and species response variables (i.e., apply adaptive management principles).

Objectives 5: Acquire Additional Land Adjacent to the Ladd Marsh WMA

Task a – Acquire 375-acre property

Methods:

- Coordinate with the entity that will facilitate landowner negotiations.
- Conduct property appraisal and NEPA surveys.
- Oversee acquisition of property.
- Complete necessary steps with ODFW Realty Division staff for title transfer to ODFW.
- Facilitate enrollment into the Wetland Reserve Program.

g. Facilities and equipment

No new facilities are anticipated to be necessary at this time. Existing facilities of the project implementers and cooperators will be used to minimize costs and to increase efficiency. ODFW equipment associated with the Ladd Marsh WMA and District offices will be used. ODFW has sufficient office and storage space, secretarial services, equipment, and computers to carry out this project's proposed tasks.

h. Budget

This proposal contains a budget that is higher than that projected in the FY99 proposal (Enhancement costs were estimated at $5,000 for FY2000). Project costs were underestimated because the FY 1999 proposal only considered costs for enhancing the 308-acre parcel. This FY 2000 proposal includes enhancement planning and implementation costs for the 308-acre parcel as well as for a 160-acre parcel. Costs for acquiring a 375-acre parcel are also include in this proposal. Personnel needs were also not addressed in the FY99 proposal. This FY 2000 proposal fully considers and recognizes the need for personnel time to achieve proposed objectives. Out-year costs were also adjusted accordingly, taking into account future personnel needs.

Personnel:
This funded position will coordinate the development and implementation of the Ladd Marsh project. This personnel need is for FY2000 and out-years, though specific project responsibilities may change through time as projects move from the restoration phase into the O&M phase. Personnel will accomplish assessment of existing habitat conditions, development of the management plans, implementation of restoration activities, implementation of the O&M Plan, and implementation of the M&E Plan. Existing personnel will likely be assigned to work on BPA mitigation. Three-quarters of the staff time will be funded by other ODFW programs.

Fringe Benefits
A fringe benefit rate of 38% is assumed (ODFW's standard fringe benefit rate).

Services, Supplies, Materials, Non-Expendable Property
Included in this line item are fence materials, water control materials, office supplies (pens, paper, etc.), printing costs, communications (cellular phone), film, and film development.

Capital Acquisitions or improvements
Costs for 40% of the purchase proce of the 375-acre property is requested. Federal Reserve funds will pay for 60-80% of the purchase price.

NEPA
Future enhancement on the 375-acre property will likely involve some earthwork and diking associated with wetland restoration work. Proposed NEPA costs account for these types of probable activities.

Travel
Travel expenses include mileage, per dium, and limited travel to Portland to coordinate project management with the Oregon Wildlife Coalition and BPA. Vehicle rental expenses are not incorporated into this line item because it is assumed that existing ODFW vehicles will be used.

Indirect Costs
Indirect costs are assumed at a rate of 35.5% (ODFW's negotiated state/federal contract overhead rate).

Subcontractor
Contracting includes noxious weed control and native plant collection and propagation.

Section 9. Key personnel

Dave Larson
Current Employer: ODFW
Title: Ladd Marsh WMA Manager
Current Responsibilities: Manages and supervises all aspects of the Ladd Marsh WMA. The primary objectives of the area are to provide: 1) habitat for wildlife (resident and migratory) present in northeast Oregon, and 2) wildlife oriented recreation and education. Other duties include identifying and coordinating wetland habitat projects in Union County.
Education: B.S. Range Management/Wildlife Management, Utah State Univ. 1982
Experience: 16 years range/wetland/wildlife experience
Previous Employment: 14 years with Utah Wildlife Resources: Conservation Officer, Wildlife Area Manager, Habitat Biologist, Upland Game Coordinator
Areas of Expertise: Wetland restoration, wetland dependent wildlife, range management; upland game
Pertinent Publications:

- Pesticides and pheasants in Utah. 1991. Utah Pheasant Issues, Special Informational Reports. Utah Division of Wildlife Resources.
- Utah Posted Hunting Unit Program. 1991. Proceedings from Sportsman – Landowner Workshop, Boise, Idaho. Idaho Fish and Game.

Relevant Accomplishments:

- Coordinated the purchase and development of three wildlife areas in Utah. The three areas encompassed over 1,000 acres of critical wildlife habitat.

- Developed and coordinated statewide upland game habitat assistance program in Utah. Program cost-shared CRP projects with significant wildlife benefits. Cost-share was primarily technical assistance and plant materials (seeds and seedlings)
- Coordinated the development and construction of a 200-acre wetland restoration project in northeast Oregon. Coordination included writing grant proposals, wetland design, and wetland construction.

Anticipated Ladd Marsh WMA Additions Project Duties: Mitigation site manager.

Susan Barnes
Current Employer: ODFW
Title: Columbia Basin Wildlife Mitigation Coordinator
Current Responsibilities: Coordinates Oregon's BPA wildlife mitigation efforts; facilitates the Oregon Wildlife Coalition; ODFW representative of CBFWA Wildlife Caucus
Education: B.S. Wildlife Management/Forestry, Univ. of New Hampshire 1991
Certifications: certified in Habitat Evaluation Procedures
Experience: 10 years wildlife experience
Areas of Expertise: Project development, coordination, and oversight; threatened and endangered species; NEPA
Previous Employment: Mason, Bruce & Girard, Inc. (environmental consulting firm); self-employed environmental consultant (contractor with NPPC); Beak Consultants, Inc. (environmental consulting firm); U.S. Forest Service (Wildlife Biologist)
Anticipated Ladd Marsh WMA Additions Project Duties: Indirectly oversee project implementation; coordinate the project within the Coalition's umbrella project proposal.

Section 10. Information/technology transfer

Information transfer and exchange will be accomplished via telephone, email, and fax communication. Reports and plans will be distributed to all participating and interested entities via BPA and the Internet. HEP Evaluations, management plans, and monitoring and evaluation reports will be publicly available. Information will also be transferred through the CBFWA Wildlife Caucus forum as well as between participating agencies and organizations at occasional meetings. The media (e.g., newspapers, agency magazines) may be used to convey info to the public. Quarterly and annual reports will be prepared for BPA.

Congratulations!